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FORM PTO-1449 (Mod. 6/86) (Rev. 7-80)		U.S. Dept. of Commerce Patent and Trademark Office		Atty Docket No. CTCH-1620	Application No. 08/693,789		
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)				Applicant(s) ROBERT H. GRUBBS ET AL.			
				Filing Date July 31, 1996	Group 1204		
U.S. PATENT DOCUMENTS							
*Examiner Initials	Document Number	Date	Name	Class	Subclass	Filing Date	
AA							

FOREIGN PATENT DOCUMENTS							
*Examiner Initials	Document Number	Date	Country	Class	Subclass	Translation YES	NO
AB							

OTHER PRIOR ART (Including Author, Title, Date Pertinent Pages, Etc.)							
	AC	Brown-Winsley, K.A., et al., "O <sub>2</sub> TiCH <sub>2</sub> COMPLEXES IN SYNTHETIC APPLICATIONS", Pure Appl. Chem. 55, 1733-1744 (1983).					
	AD	Collman, J.P., et al., "RADICAL MECHANISM FOR THE DECOMPOSITION OF RuOPE(CH <sub>2</sub> CH <sub>3</sub> ) <sub>2</sub> . DETERMINATION OF THE METAL-BOND DISSOCIATION ENERGY", J. Am. Chem. Soc. 108, 1332-1333 (1986).					
	AE	Auer, A., et al., "TUNGSTEN VITRIOL REAGENTS: AN EFFICIENT SYNTHESIS OF... INTRAMOLECULAR AMIDOCLEAVAGE OF OLEFINIC IMIDES TO AFFORD LACTAMS", J. Chem. Soc. Chem. Commun. 531-533 (1986).					
	AF	Novak, B., et al., "THE RING OPENING METATHESIS POLYMERIZATION OF 7-OXABICYCLO [2.2.2] HEPT-5-ENE DERIVATIVES: A NEW ACYCLIC POLYMERIC IONOPHORE", JACS, Vol. 110, 960-961 (1988)					
	AG	Schlund, R., et al., "DIRECT POLYMERIZATION OF ACETYLENE TO GIVE LIVING POLYENES", J. Am. Chem. Soc. 111, No. 20 (1989).					
	AH	Park, L.Y., et al., "PREPARATION OF DISCRETE POLYENES AND NORBORNENE-POLYENE BLOCK COPOLYMERS USING Mo(CH-t-Bu)(NAr)(O-t-Bu) <sub>2</sub> AS THE INITIATOR", Macromolecules 24, 3489-3495 (1991).					
	AI	Wagener, K. B., et al., "ACYCLIC DIENE METATHESIS (ADMET) POLYMERIZATION", Macromolecules 24, 2649-2657 (1991).					
	AJ	Bazan, G., et al., "SYNTHESIS AND KINETICS OF DECOMPOSITION OF TUNGSTEN (VI) AND MOLYBDENUM (VI) 2-OXAMETALLACYCLOBUTANE COMPLEXES AND THE X-RAY STRUCTURE OF trans-Mo[CH(t-Bu)CH(C <sub>6</sub> F <sub>5</sub> )O](NAr)(O-t-Bu) <sub>2</sub> ", J. Organometallics Chem. 10, 1062-1067 (1991).					
	AK	Schwab, P., et al., "A SERIES OF WELL-DEFINED METATHESIS CATALYSTS- SYNTHESIS OF [RuCl <sub>2</sub> (=CHR')(PR <sub>3</sub> ) <sub>2</sub> ] AND ITS REACTIONS", Agnew. Chem. Int. Ed. Engl. / 34 2039-2041 (1995).					
	AL	Schwab, P., et al., "SYNTHESIS AND APPLICATIONS OF RuCl <sub>2</sub> (=CHR')(PR <sub>3</sub> ) <sub>2</sub> : THE INFLUENCE OF THE ALKYLIDENE MOIETY ON METATHESIS ACTIVITY", J. Am. Chem. Soc. 118, 100-110 (1996).					

Examiner: <i>Porfirio Nazario Gonzalez</i>	Date Considered: <i>10/10/97</i>
Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449 (Modified) (Rev. 7-80)		U.S. Dept. of Commerce Patent and Trademark Office	Atty Docket No. CTCH-1620	Application No. 08/693,789
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## OTHER PRIOR ART (Including Author, Title, Date Pertinent Pages, Etc.)

AP	"Metathesis of Functionalized Olefin", <i>J. of Molecules Catalysis</i> , 15 (1982), pp. 35-45
AQ	Bruce et al., "Cyclopentadienyl-Ruthenium and -osmium Chemistry. Some Reactions of Substituted Vinylidene Complexes," <i>J. Organometallic Chem.</i> 171:C5-C8 (1979)
AR	M.H.L. Green et al., "Carbene Complexes of Iron, Molybdenum, and Ruthenium: A New Route to Metal-Carbene Derivatives," <i>J. Chem. Soc. (A)</i> 794-797 (1971)
AS	H. Le Bozec et al., "A New Route to Vinylcarbene Metal Complexes in One Step from 2-Propyn-1-ols and Arene Ruthenium(II) Derivatives," <i>J. Chem. Soc. Chem. Comm.</i> 219-221 (1989)
AT	Grundy et al., "Migratory-Insertion Reactions of Osmium (II) Ethyl Complexes Derived From an Osmium (0) Ethylene Complex," <i>J. Organometallic Chem.</i> 216:255-262 (1981)
AU	Grundy et al., "Propionyl Complexes of Ruthenium Derived From the Reaction of Ethylene with RuHCl(CO) <sub>2</sub> (PPh <sub>3</sub> ) <sub>2</sub> ," <i>J. Organometallic Chem.</i> 265:77-85 (1984)
AV	Richard R. Schrock, "Living Ring-Opening Metathesis Polymerization Catalyzed by Well-Characterized Transition-Metal Alkyldene Complexes," <i>Acc. Chem. Res.</i> 1990, Vol. 23, pp 158-165
AW	Gregory C. Fu et al., "Catalytic Ring-Closing Metathesis of Functionalized Dienes by a Ruthenium Carbene Complex" <i>Am. Chem. Soc.</i> 1993, pp. 9856-9857
BA	Robert H. Grubbs et al., "Ring-Opening Metathesis Polymerization Catalysts" <i>Polymer Preprints</i> 1994, 35(1), pp. 688
BB	Marc A. Hillmyer et al., "The ROMP of COD by a Well-Defined Metathesis Catalyst in the Presence of a Difunctional Chain Transfer Agent: The Preparation of Hydroxy-Telechelic 1,4-Poly(butadiene)". <i>Polymer Preprints</i> 1993, 34(2), pp. 388-389
BC	Marc A. Hillmyer et al., "Preparation of Hydroxytelechelic Poly(butadiene) via Ring-Opening Metathesis Polymerization Employing a Well-Defined Metathesis Catalyst" <i>Am. Chem. Soc. Macromolecules</i> , Vol. 26, No. 4, 1992, pp. 872-874.
BD	SonBinh R. Nguyen et al., "Syntheses and Activities of New Single-Component Ruthenium-Based Olefin Metathesis Catalysts" <i>J. Am. Chem. Soc.</i> 1993, 115, 9858-9859
BE	SonBinh R. Nguyen et al., "Ring-Opening Metathesis Polymerization (ROMP) of Norbornene by a Group VIII Carbene Complex in Protic Media", <i>J. Am. Chem. Soc.</i> 1992, 114, 3974-3975

Examiner <i>Porfirio Nazario González</i>	Date Considered 10/14/97
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## U.S. PATENT DOCUMENTS

*Examiner Initials		Document Number	Date	Name	Class	Subclass	Filing Date
	AA	4,883,851	11/28/89	Grubbs et al.	526	268	06/22/89
	AB	4,945,135	07/31/90	Grubbs et al.	525	338	09/15/89
	AC	4,945,148	07/31/90	Grubbs et al.	526	268-90	09/15/89
	AD	4,945,144	07/31/90	Grubbs et al.	526	268	09/15/89
	AE	5,312,940	05/17/94	Grubbs et al.	526	136	04/03/92
	AF	5,342,909	08/30/94	Grubbs et al.	526	171	08/13/93
	AG	5,198,511	03/30/93	Brown-Wensley et al.	526	113	12/20/91
	AH	5,296,566	03/22/94	Brown-Wensley et al	526	171	12/16/92

## FOREIGN PATENT DOCUMENTS

*Examiner Initials		Document Number	Date	Country	Class	Subclass	Translation YES NO

## OTHER PRIOR ART (Including Author, Title, Date Pertinent Pages, Etc.)

	AI	Burrell et al., "Synthesis and Reactions of Ru(=CH <sub>3</sub> ) Cl (NO <sub>2</sub> ) <sub>2</sub> A Stable Terminal Methylenecomplex and the Crystal Structure of Ru(CH <sub>3</sub> PPF <sub>6</sub> ) <sub>2</sub> (n <sup>3</sup> -C <sub>5</sub> F <sub>5</sub> Cl (NO <sub>2</sub> ) <sub>2</sub> (PPF <sub>6</sub> ) <sub>2</sub> , J. Chem. Soc., Dalton Trans., 1991, pp.609-614
	AJ	Ivin, K.J. "Olefin Metathesis", 1983, Academic Press, pp. vii-x, 34-36
	AK	McGrath et al., "Aqueous Ring-Opening Metathesis Polymerization of 7-Oxanorbornene Derivatives Using Ruthenium Catalysts", 1990, pp. 525-536
	AL	Novak et al., "Catalytic Organometallic Chemistry in Water: The Aqueous Ring-Opening Metathesis Polymerization of 7-Oxanorbornene Derivatives", 1988, JACS, Vol.110,pp.7542-43g
	AM	Hillmyer et al., "The Aqueous Ring-Opening Metathesis Polymerization of exo-N-Methyl-7-oxabicyclo [2.2.1] hept-5-ene-2, 3-dicarbonimide" 1991,pp. 162-163
	AN	Carter et al., "Review of the Chemistry of Cyclopropane Compounds", April 20, 1964,pp. 497-525
	AO	Schmidbaur et al., "Ylide Chemistry: An Account of Structural, Conformational and Redox Investigations" 1983m pp. 167-170

Examiner <i>Pedro Mazzini Gonzalez</i>	Date Considered 10/14/99
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